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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,813	12/08/2003	Nathan R. Brown	500200.06 (29285/US/5)	4210

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EXAMINER

GRANT, ALVIN J

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/730,813

Applicant(s)

BROWN, NATHAN R.

Examiner

Alvin J Grant

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) 1-36, 41 and 48-59 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 37-40 and 42-47 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/15/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. **Claims 37-39, 42 and 45-47** are rejected under 35 U.S.C. 102(e) as being anticipated by Nagahara et al. '288.

Nagahara et al. discloses a method of planarizing a microelectronic substrate, comprising: biasing the microelectronic substrate against a planarizing medium with a flexible membrane to exert a first force on a first part of the microelectronic substrate and exert a second force greater than the first force on a second part of the microelectronic substrate (column 1, lines 36-40); and moving at least one of the microelectronic substrate and the planarizing medium relative to the other to remove material from the microelectronic substrate; engage the first part of the microelectronic substrate with a first portion of the flexible membrane having a first thickness, engaging the second part of the microelectronic substrate with a second portion of the flexible membrane having a second thickness greater than the first thickness; engaging a first part of the microelectronic substrate includes engaging a first annular part of the microelectronic substrate includes engaging a second annular part of the microelectronic substrate

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disposed radially inwardly from the first annular part of the microelectronic substrate; the membrane has a first surface facing toward the microelectronic substrate and the second surface facing generally opposite the first surface, further wherein biasing the microelectronic substrate against the planarizing medium includes biasing a generally flat support member against the second surface of the membrane; the membrane is the first of a first and second membrane, each membrane having a first portion with a first thickness and a second portion with a second thickness, a ratio of the first thickness to the second thickness of the first membrane having a first value, a ratio of the first thickness to the second thickness of the second membrane having a second value different than the first value, further comprising selecting the first membrane from the first and second membranes (Fig. 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahara et al. in view of Strasbaugh '316.

Nagahara is described above. Nagahara does not specifically disclose a microelectronic substrate wherein engaging the first part of the microelectronic substrate includes engaging the first annular part of the microelectronic substrate and engaging the second part of the microelectronic substrate includes engaging a second annular part of the microelectronic substrate disposed radially outwardly from the first annular part of the microelectronic substrate. Strasbaugh discloses a microelectronic substrate wherein engaging the first part of the microelectronic substrate includes engaging the first annular part of the microelectronic substrate and engaging the second part of the microelectronic substrate includes engaging a second annular part of the microelectronic substrate disposed radially outwardly from the first annular part of the microelectronic substrate so as to apply pressure to the outer annular surface of the substrate first. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the apparatus of Nagahara to have a microelectronic substrate wherein

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engaging the first part of the microelectronic substrate includes engaging the first annular part of the microelectronic substrate and engaging the second part of the microelectronic substrate includes engaging a second annular part of the microelectronic substrate disposed radially outwardly from the first annular part of the microelectronic substrate as taught by Strasbaugh so as to apply pressure to the outer annular surface of the substrate first.

Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahara et al. in view of Strasbaugh and in further view of Roberts et al. '268.

Nagahara as modified is described above. The modified Nagahara does not specifically disclose a membrane made by injection molding. Roberts et al. discloses polishing pads made the process of injection molding so that the physical properties can be fine-tuned. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the molding of Nagahara by the process of injection molding as taught by Roberts et al. because of the fine-tuning capabilities provided thereby.

Claims 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahara in view of Strasbaugh and Roberts et al. and in further view of Carpenter '967.

Nagahara as modified is described above. The modified Nagahara et al. does not specifically disclose an elongated polishing pad wound around take-up and supply rollers. Carpenter discloses the use of elongated polishing pads wound around supply and take-up rollers (Fig. 9) so as to provide for the easy and rapid changing of the polishing surface. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of Nagahara et al. to include elongated polishing pads wound around supply and take-up rollers as taught by Carpenter so as to provide for the easy and rapid changing of the polishing surface.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin J Grant whose telephone number is (703) 305-3315. The examiner can normally be reached on Mon-Fri 8:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J Hail can be reached on (703) 308-2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ajg

A handwritten signature in black ink, appearing to read "Joseph J. Hail, III". The signature is fluid and cursive, with a stylized "H" and "I" at the end.

Joseph J. Hail, III
Supervisory Patent Examiner
Technology Center 3700